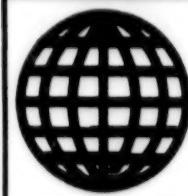


JPRS-TEN-93-020
16 August 1993



FOREIGN
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JPRS Report—

**Environmental
Issues**

Environmental Issues

JPRS-TEN-93-020

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Regional Affairs

Civil Wars Said Devastating Angolan, Mozambican Ecologies

MB1607155593 Johannesburg NEW NATION in English 16-30 Jul 93 p 7

[Unattributed report]

[Text] Mozambique and Angola, which have both suffered unparalleled environmental destruction as a result of civil wars, can no longer endure the present levels of ecological abuse.

A report in the latest issue of the London-based Panos magazine said that the decade-long wars in the two countries had not only caused one-million deaths and shattered economies, but also wreaked untold havoc on the environment.

It will take generations to repair the damage caused by the war that was orchestrated by South Africa and Western powers opposed to the non-racial Marxist states.

The report said the war forced many people to abandon their rural homes and concentrate in small areas inside and outside their countries—where they had been forced to over-exploit the environment. "In Mozambique, half the population fled their homes; 70 percent now lives in the cities and along the 'Beira Corridor', where soldiers guarding a vital road, railway and oil pipeline protect people from Renamo [Mozambique National Resistance] rebels. Nearly two-million Mozambicans have fled to neighbouring countries, especially Malawi," said the report.

It went on to state that the Mozambican capital Maputo, supports a population of three times its capacity. The demand for firewood for cooking has rocketed, and land has been stripped of trees for 100 km around the capital. "In Angola, war pushed two-million people out of the rural areas toward the relative security of the towns. To meet their energy needs, they, too, have cut down trees around towns. And more than 500,000 Angolans have fled to Zaire and Zambia, where they have caused localised environmental pressure."

The report said half of Mozambique's 9,700 square kilometres of precious coastal mangrove forests were cut down for timber during the war. "This deforestation threatens prawns that breed in the mangrove swamps, and catches have declined."

However, the report said many Mozambican refugees were returning home following the signing of a peace settlement between Renamo and the Frelimo [Mozambique Liberation Front] government and many reached their farms in time to plant before good rains started in December last year.

A biologist, Mia Couto, cautioned, however, that "if the war starts up again, we are in danger of seeing this country turned into an ecological desert."

The report blamed further environmental damage on the price Renamo and Unita [National Union for the Total Independence of Angola] had to pay for South African support. Unita, it said, shipped huge amounts of valuable teak out of Angola, while both Unita and Renamo sold hundreds of tons of ivory. Some conservationists estimate that about 100,000 elephants were killed by Unita to obtain ivory. The report estimated that between 1975 to 1991, the Mozambican elephant population dropped from 50,000 to under 15,000 as a result of poaching by soldiers on both sides of the conflict.

Trade Unions Pass Resolutions on Hazardous Chemicals

MB1707122393 Johannesburg SAPA in English 0842 GMT 17 Jul 93

[Text] Harare July 17 SAPA—African trade unions called on their governments to work towards a legal and institutional framework for eliminating and substituting all chemicals banned or severely restricted in Europe or North America, reports Ziana, Zimbabwe's national news agency.

Passing their resolutions after a five-day workshop on chemical safety held in Harare recently, the unions said governments and other organisations in the northern hemisphere should ensure exclusion of possible relocation of unsafe work or hazardous waste to the south. They said manufacturers should be liable for informing importing companies on whether the chemical is banned or restricted in the country of origin.

"Manufacturer, employer and government responsibilities on hazard information, risk assessment and risk management are global and mechanisms must be identified to ensure that this is effected, particularly north to south."

"Governments, including those in Africa, must ratify, implement in law and disseminate information on the provisions of the International Labour Convention 170 (safe use of chemicals) and ILO [International Labor Office] Conventions 155 and 161 on occupational health systems and services. The food and agriculture organisation code on pesticide safety should also be implemented, the unions said in their resolutions."

The workshop was attended by representatives of 16 trade union centres from Namibia, Zambia, Tanzania, South Africa, Botswana, and Zimbabwe. The representatives, who also included those from ILO discussed the export of hazardous substances into Africa, safe practices of chemical use, information on chemical safety and health effects of chemical use and detection of chemical-related ill health. The unions endorsed a resolution on occupational health and environment which condemns the dumping of hazardous substances in Africa and other developing countries.

The unions also demanded immediate stop to illegal trans-boundary traffic in hazardous wastes, a ban on the export of hazardous wastes which have been considered

harmful to health and the environment, and were banned or severely restricted in their country of origin. The workshop also called for a ban on the import of hazardous wastes, if adequate transport and disposal facilities were not ensured for the environmentally sound management of these. Governments should sign and become parties to the basel convention on the control of trans-boundary movements of hazardous wastes and their disposal, as a minimum measure, and to apply its provisions as soon as possible.

The unions said more effective and widespread measures should be implemented to detect, monitor, manage and compensate chemical related ill health without unduly placing the burden of proof on the worker, while protecting the job security and rehabilitation rights of workers suffering chemical related ill health.

South Africa

Council of Environment Against Mining St Lucia
MB2207115593 Johannesburg THE STAR in English
22 Jul 93 p 5

[Article by Brendan Templeton]

[Text] The St Lucia anti-mining lobby has received support from the Council for the Environment which has

voted that mining should not be allowed near the wetland. The advisory council to the Minister of Environment Affairs recently decided, by eight votes to seven, against the mining option.

Sources close to the council said this probably meant that the final decision on the wetland's future may have to be made at Cabinet level.

Although Mineral and Energy Affairs Minister George Bartlett will make the final decision whether mining should go ahead, he will have to do so under advice from Environment and Water Affairs Minister Japie van Wyk. Bartlett has indicated that he is in favour of mining. Sources said the final outcome could only be announced at Cabinet level if an affected Minister opposed his decision.

Some members of the Council for the Environment, which regularly advised the Minister on environmental matters, recused themselves from the vote because they were too close to the issue, they added.

Natal Parks Board chief George Hughes, one of those who recused themselves, welcomed the final outcome: "I am pleased the council decided to go for ecotourism," he said. Although members of the council who participated in the vote confirmed that it had been against the mining option, they did not wish to comment on record.

—The Institute of Town and Regional Planners has pledged its support for the anti-mining lobby, bringing to 120 the number of South African institutions opposed to mining in the estuary.

Wan Li Establishes Nongovernmental Environment Award

*OW0907142693 Beijing XINHUA in English
1235 GMT 9 Jul 93*

[Text] Beijing, July 9 (XINHUA)—China has set up a nongovernmental award for environmentalists, said to be the first of its kind in the world.

The "China Green Gold Medal," established by the "CHINA SCIENCE AND TECHNOLOGY DAILY," will be given annually to those who have contributed to scientific breakthroughs in environmental protection. And a special medal will be awarded every five years for people who are especially outstanding in this field.

Last month hundreds of Chinese environmentalists held the largest forum on this subject in Chinese history.

"For the past 20 years, since China began environmental protection, the government has played the major role in curbing pollution by using administrative measures. Now we turn to scientific and legal means," said Liu Shulin, deputy director general of the daily.

He said that Wan Li, former chairman of the National People's Congress Standing Committee, has inscribed the medal's name, which signifies that only by relying on science and technology, can environmental problems be solved along with economic expansion in the peaceful environment.

A jury comprised of management experts, environmental protectionists and journalists has been formed, Liu said.

"Green Science" is a worldwide movement to improve the environment and promote clean production as well as to save energy by using science and technology.

China has so far formulated four environmental laws, some 20 state regulations, as well as more than 200 national standards for protecting water, air and the ecology.

An estimated 100 billion yuan (about 17 billion U.S. dollars), or about 0.85 percent of the country's gross national product, will have been invested in environmental protection projects between 1991 and 1995.

According to a report prepared by the State Bureau of Environmental Protection, China's environment, taken as a whole, has experienced "no serious deterioration" despite an annual growth of 12 percent in China's 1992 economic development.

With the upsurge of "Green Wave" internationally and China shifting to the socialist market economy today, however, work in the country's environment protection should be geared to reliance on science progress with the help of legislation.

Liu Shulin said that the recipients of the first green gold medals will be made public in August. Meanwhile,

environmentalists have suggested that every June be designated as "China's Green Science Month."

State Councillor Song Jian on Environmental Protection

*OW1407224293 Beijing XINHUA in English
1536 GMT 14 Jul 93*

[Text] Beijing, July 14 (XINHUA)—China is to revise and complete its environmental protection laws and stipulations, and examine and promote national environmental protection work over the next few years.

State Councillor Song Jian made this remark here today during the first session of the Third Environmental Protection Committee of the State Council, the country's cabinet.

The new committee was established today, with Song taking the post of director.

He said that the first session made clear the new committee's general constitution, responsibility and work regulations. At present, China's economy is growing rapidly, and the environmental protection work should be done more thoroughly and carefully.

Xie Zhenhua, director of the State Bureau of Environmental Protection and secretary-general of the committee, said that the committee will assist the State Council to examine and approve economic development policies and programs which affect the environment.

The session approved a program of action to check the execution of relevant rules and regulations in the coming three years.

Tibetan Official Affirms Environment Well Protected

*HK1407054493 Beijing ZHONGGUO XINWEN SHE
in Chinese 0803 GMT 25 Jun 93*

[Article by correspondent Li Jinyuan (2621 6855 0337)]

[Text] 25 Jun (ZHONGGUO XINWEN SHE)—Li Yankun, head of the Tibet Autonomous Regional Bureau for the Development and Environmental Protection of Urban and Rural Areas, an organ under the region's environmental protection department, said in an interview today: "The Tibet Autonomous Region's environment has received and is receiving effective protection," rejecting the view that "Tibet's ecosystem is being destroyed" as being completely incompatible with facts.

The Tibet Autonomous Region covers an area of more than 1.2 million sq km, has rich natural resources, and is noted for its unique highland ecological system. Li Yankun described the situation, saying that the latest results from the first six months of monitoring show that the atmospheric quality of the Tibet Autonomous

Region continues to be good and has not become polluted. The same is true for water supplies throughout the region. The noise level in city production areas has been put under effective control. Levels of radioactivity from natural environments remain within the normal range. The growth rate for the region's forests is greater than the rate of depletion, and forested areas are now 6.78 percent of the region's total.

Li Yankun said environmental protection became a rising industry in the Tibet Autonomous Region in the mid-1970's. Over the last 20 years, the concerned governments and departments at all levels have attached great importance to environmental protection, unveiling on different occasions the "Tibet Autonomous Region ordinances on forest protection," "details for environmental protection in development projects in the Tibet Autonomous Region," "methods for the implementation of the 'PRC wildlife protection laws' in the Tibet Autonomous Region," and other such local environmental protection regulations, to make sure that economic growth and environmental protection go hand in hand. Large-scale projects follow the environmental protection principle all the way from feasibility studies to actual construction. For example, the Tibet Yanzho Yumco Hydropower Station and the Shannan Luobusa Chromite Mine projects strictly observed environmental protection regulations. Since 1990, the state and the autonomous region have spent over 6 million yuan building environmental monitoring stations in Lhasa, Xigaze, Qamdo, and other areas. The installation of these stations signals the beginning of environmental monitoring of the atmosphere, bodies of water, and noise and puts an end to the days when Tibet had no environmental watch services. Localities throughout the autonomous region regard afforestation as a matter of great concern. In 1992 alone, trees were planted on over 3,500 hectares of land; 20,000 hectares of hills were closed to allow forests to grow back; 538 hectares of deforested clearings were replanted; and there were over 7,500 hectares of new cultivated grassland.

Tibet has a large wildlife population. There are 115 animals under state Class One protection and over 40 kinds of rare species seen only in highlands. Li Yankun said the Tibet Autonomous Region has spent enormous amounts of money and manpower to protect wildlife, setting up at different times the Qomolangma Feng, Medog, and Nyingchi nature reserves and four others throughout the region, which cover 25 percent of the region's total area. There are now approximately 1,300 antelopes—compared to 500 or so in the past—in the Chayang Nature Reserve.

Li Yankun dismissed as fictitious sayings in foreign countries that the Chinese Government is dumping nuclear waste and building nuclear facilities in Tibet.

Biosphere Nature Reserves Network Set Up

*OW1207111393 Beijing XINHUA in English
0823 GMT 12 Jul 93*

[Text] Beijing, July 12 (XINHUA)—The China Biosphere Nature Reserves Network (CBNRN), a governmental organization for protection of nature and the environment, was set up here today.

The organization is composed of wildlife protection officials from central and local governmental organizations, such as the State Environmental Protection Bureau, the Ministry of Forestry, the Ministry of Agriculture and 45 national nature reserves.

CBNRN was designed to improve the protection of the country's wild animals and plants in nature reserves by conducting international exchanges of technology and information, and using overseas financial aid.

CBNRN consists of 45 reserves selected from China's 708 national nature reserves, including Changbei mountain nature reserve and Wolong giant panda nature reserve, two of China's most important ones.

As part of the "China Man and Biosphere Program," CBNRN also includes nine nature reserves in China which are members of the International Biosphere Reserve Network (IBRN).

IBRN was set up in 1971 as part of "Man and the Biosphere Program" by the United Nations Educational, Scientific and Cultural Organization.

By the end of 1992, IBRN had 311 member nature reserves involving 81 countries, which are centers for global protection, research, monitoring, training and sustained development of resources and environment.

Nature Reserve Network To Improve Environmental Work

*HK1307050893 Beijing CHINA DAILY in English
13 Jul 93 p 1*

[Report by staff reporter: "China Will Link Up Its Nature Reserves"]

[Text] China announced yesterday that it will establish the China Biosphere Nature Reserve Network to improve domestic and international environmental coordination.

"Setting up the network aims to coordinate the cooperation between China's nature protection projects and Unesco's Man and the Biosphere Programme, as well as among China's nature reserves themselves," said Zhao Xianying, Secretary-General of China's State Committee on Man and the Biosphere Programme.

China established the committee in September 1978 to complement the Man and the Biosphere Programme of the United Nations Educational, Scientific and Cultural Organization.

Zhao said nine of China's nature reserves have been accepted into the nature reserve network of the Internal Man and the Biosphere Programme.

The nine national reserves are Wolong in Sichuan, Changbai Mountain in Jilin, Dinghu Hill in Guangdong, Fanjing Mountain in Guizhou, Wuyi Mountain in Fujian, Xilingole in Inner Mongolia, Bogeda Peak in Xinjiang, Shennongjia in Hubei, and Yancheng in Jiangsu.

China has 708 nature reserves covering a total area of 56 million hectares, or 5.6 percent of its territory, according to Zhao.

However, most of them are located in areas with inadequate infrastructure, limited information services and poor management, Zhao said.

And since these reserves belong to different ministries and departments under the central and provincial governments, they do not cooperate enough among themselves.

To further protect wildlife and plants, China plans to have 1,000 nature reserves by the year 2000. By then nearly all of the country's rare wild animals and precious ecological systems will be under the protection of these reserves, of which 200 will be at the State level.

Beijing Urges Rich Nations To Help Protect Environment

*OW2107062493 Beijing XINHUA in English
0503 GMT 21 Jul 93*

[Text] Geneva, July 20 (XINHUA)—China is urging developed countries to provide more financial resources and technology to help developing countries protect the environment and achieve sustainable development.

The call was made by Chinese Ambassador Hou Zhitong at the 1993 session of the U.N. Economic and Social Council (ECOSOC) when referring to sustainable development.

Implementation of Agenda 21 was discussed at the session. Agenda 21 is a program achieved during the 1992 earth summit in Rio for protecting the environment and achieving sustainable development.

Developing countries demand non-commercial transfer of technologies from the developed countries and greater financial assistance to see them implemented.

"Smooth implementation" of Agenda 21 will depend on improvement in a currently unfavorable international economic environment, Hou noted.

It also depends on the developed countries providing adequate, new and additional financial resources as well as non-commercial transfers of technology to developing countries, Hou added.

He stressed that China as always will make its efforts with various countries and relevant international agencies, and will make its own contribution to implementation of various resolutions by the U.N. Conference on Environment and Development.

Speaking at the Monday [19 July] session, a representative from Madagascar recognized the urgent need to promote sustainable development and protect the environment.

"Implementation of Agenda 21 should bring benefits to the developing world by solving economic and social problems," said the representative.

Ahmed Amazianne, a representative from Morocco, noted that all had agreed to implement Agenda 21 at the national level.

However, he stressed that there is need to have information from all countries, particularly from developed countries, concerning technology transfer.

Indonesia

Jakarta To Ban CFC Use by 1997

BK1507102593 Jakarta THE INDONESIA TIMES in English 9 Jul 93 p 8

[By our reporter]

[Excerpt] Indonesia will ban totally the use of CFC (chlorofluorocarbon) by the end of 1997 and promote the use of non-ODS (ozone-depleting substances) like hydrofluorocarbon (HFC) or other ozone-harmless materials, Assistant to the State Minister for Environment Dr. R.T.M. Sutamihardja told reporters here on Tuesday.

Sutamihardja said that Indonesia should speed up its programme to ban the CFC considering fact that the thinning of ozone layer has increased from year to year.

An official of the Indonesian National Space Agency (LAPAN), Pramono, said that from 1979 to 1991 world's ozone layer has decreased about 2 to 3 percent. But, in 1992 only it has jumped to 3 percent.

The ozone issue has been spreading up over the world since 1979 and it shows that the South and North Poles are the most affected areas. But according to Sutamihardja, last year the NIMBUS VII satellite has measured that the equatorial areas has also been affected. It spreads from 10 to 20 degrees South and 10 to 60 degrees North.

Replying to THE INDONESIA TIMES after visiting the first company using the non-ODS refrigerant, P.T. [Company Limited] Sunrise Bumi Textile in Bekasi, West Java, Sutamihardja said that Indonesia has ratified the Vienna Convention and the Montreal Protocol concerning the ozone layer in the world. President Suharto has decided to adopt the convention into the Keppres [Presidential Decree] Number 23 on May 23 1992. This is a voluntary obligation and government will not take strict steps against its violations. Naturally, with the end of CFC production, people will seek appropriate materials, he added. [passage omitted]

South Korea

ROK Channels 1.6 Trillion Won Into Improving Water Quality

SK0707041993 Seoul THE KOREA TIMES in English 7 Jul 93 p 3

[Text] A total of over 1.6 trillion won will be funnelled into improving the quality of water in the Yongsan and Kum Rivers, major sources of tap water for the southwestern part of the nation, by the year 1996.

According to the Environment Ministry yesterday, 946.3 billion won will be invested into the Kum River while 721.4 billion won will be channelled into the Yongsan River.

The investment plans for constructing almost 250 water treatment facilities in the vicinity of the two rivers were finalized early this week in meetings of senior officials from related government agencies and representatives of provincial administrations.

Ministry officials said the facilities investment plan follows an earlier program in which about 1 trillion won is to be invested before 1996 for enhancing the quality of water in the Nakdong River.

Last year, they cited from statistics, the actual investment for water purification stood at 94 percent for the Kum River and 65.4 percent for the Yongsan River.

On the Kum River, the ministry is planning to construct 124 new final sewage and water treatment facilities while refurbishing 22 existing systems, the officials said.

On the Yongsan River, they added, the plan calls for the installation of 117 new sewage and wastewater treatment facilities as well as the renovation of 19 plants now in operation.

In the meetings held Monday and Tuesday, government and provincial administration concurred on the need to issue environmental bonds to raise funds for financing the massive projects.

They said a large portion of environmental levies, imposed on those who contribute to pollution, will be channeled into partially fulfilling the financial requirement.

Owing to the fact that a large portion of the wastewater treatment facilities have to be imported, the officials also agreed to apply for loans from the International Bank of Reconstruction and Development (IBRD).

In addition to the construction of the wastewater and sewage treatment plants, the ministry has decided to organize spot inspection teams who will maintain surveillance on those who discharge pollutants.

The ministry officials also said they would strengthen training programs for environmental inspectors attached to provincial administrative office to more effectively crack down on illegal activities by industrial companies.

Malaysia

Minister on Need for Funding To Phase Out CFC's

BK2007094093 Kuala Lumpur BERNAMA in English 0648 GMT 20 Jul 93

[Text] Kuala Lumpur, July 20 (OANA/BERNAMA)— Malaysia Tuesday warned industrialised countries to stop finding ways to avoid funding the cost for developing countries to phase out the use of ozone depleting substances (ODS) under the Montreal Protocol. Science, Technology and Environment Minister Law Hieng Ding

said by doing so they were hampering efforts to reduce and eventually phase out the use of ODS in developing nations.

I must sound a warning to the industrialised countries and the implementing agencies not to overdo their case in arbitrarily interpreting the term 'incremental cost' to avoid funding the cost of complying with the Montreal Protocol by developing countries, he said when opening the national ODS conference at a hotel here.

The unhealthy trend would leave developing countries with no other choice but to prolong the use of ODS as they have no other adequate support to switch to other alternatives, he added.

Developed countries who were parties to the Montreal Protocol were required to contribute to the U.S.\$240 million multilateral fund to help ODS-using industries in developing countries to switch to a more friendly substance. The fund is to cover the incremental cost incurred by industries in developing countries, who are parties to the protocol, in their conversion projects to phase out the use of ODS.

Law said developed countries were attempting to avoid contributing to the fund by limiting projects covered under the protocol by arbitrarily interpreting the term incremental cost. As vice-chairman of the multilateral fund, Malaysia was seriously concerned with this unhealthy trend and urged the industrialised country not to play with fire as it would not help in the

Singapore

Joint Project With Malaysia To Clean Up Johor Straits

BK1507140993 Singapore THE STRAITS TIMES
in English 15 Jul 93 p 16

[Article by David Chew]

[Text] Johor Baru—A joint project to clean up the water in the Straits of Johor highlighted the cooperation between Malaysia and Singapore to protect a common resource, Johor Menteri Besar [Chief Minister] Tan Sri Muhyiddin Yassin said yesterday.

The project was a good example where both countries bound by close and cordial ties could pool their resources, he said.

This was to enable them to complement rather than compete with each other in protecting the waterway which also served as their common border, he said.

Tan Sri Muhyiddin was speaking at the contract-signing ceremony for the hydraulic and water quality study in the Johor Straits at the Puteri Pan Pacific Hotel here. "To put it succinctly, as good neighbours, we should

orientate our relations in order to exploit mutual benefits, building on each other's strengths rather than our weaknesses," he said.

The contract was signed by Johor State Tourism and Environment Committee chairman Datuk Jimmy Low on behalf of Malaysia, and Permanent Secretary of Singapore's Environment Ministry Tan Guong Ching.

Datuk Low and Mr. Tan are cochairs of the Malaysia-Singapore Joint Committee on the Environment which initiated the study. The cost of S [Singapore] \$300,000 is borne equally by both countries.

The minister of state for the environment, Mr. Abdullah Tarmugi, who was at the ceremony, said in his speech that the project marked the commitment and determination of the two countries to see concrete environmental protection measures put into practice.

He said Singapore and Malaysia were separated by only a narrow stretch of water.

"Given this proximity, it is essential for Singapore and Malaysia to work together and coordinate environmental programmes between our countries to protect our common environment."

He said the hydraulic study would help both countries identify measures to protect the quality of water in the straits.

Listing out the benefits of clean water in the straits, he said that a clean straits would enhance the value of land along it.

"It will also enhance the recreational value of long stretches of beaches along the straits in Malaysia and Singapore," he said. "Good water quality in the straits is also essential to protect the livelihood of many people dependent upon it for fishing and also aquaculture."

He said clean water was also needed to protect ecosystems such as mangrove swamps and other estuarine marine life along the straits.

The study, which will take a year to complete, will be undertaken by the British consultant firm, M/S Murray-North (SEA) Pte. Ltd.

Among other things, it will chart the movement of water and assess its circulation rate in the straits. It will also seek to identify the source of pollution which has led to a depletion of marine life there.

According to Tan Sri Muhyiddin, the study will be a useful guide to ensure that Singapore and Johor are free from environmental problems in the long run.

Taiwan

Government To Crack Down on Driftnet Fishing

*OW1507191193 Taipei CNA in English
1341 GMT 15 Jul 93*

[Text] Taipei, July 15 (CNA)—The Council of Agriculture (COA) will send a third patrol boat to the north Pacific on July 17 to assure that there is no driftnet fishing by any Taiwan fishing vessels in that area.

The Republic of China [ROC] currently has two patrol boats cruising on the high seas of the north Pacific, one of the major fishing grounds for Taiwan fishing vessels. "Any fishing boats found engaging in driftnetting will be given a heavy punishment," a COA official said.

The ROC Government has imposed a ban on the controversial driftnet fishing, which environmentalists say will also ensnare ocean animals such as dolphins and turtles. The Earth Trust, a Hawaii-based green organization, issued a statement on June 24 claiming that two Taiwan fishing boats, Chin Lai and Chin Chan, had been renamed in Singapore after registering with Honduras. The two ships, already equipped with driftnet equipment, were ready to sail for the north Pacific and begin operations, the organization argued.

The COA official, when asked to comment on the report, said his department is looking into the case and promised to make public the results of investigation at a later date.

Thailand

German Environmental Know-How Transferred to Thailand

BR2007100393 Eschborn NACHRICHTEN FUER AUSSENHANDEL in German 18 Jun 93 p 6

[Text] The expanding market in Thailand for environmental conservation equipment offers attractive scope for German firms working in this sector. More and more operators of factories and production processes causing environmental pollution are coming under pressure from the government to invest in effective environmental technology. The demand for recycling or material recovery equipment is also increasing.

A report just presented by the German Investment and Development Company (DEG) points to the Bangkok

conurbation's dependence on ever-scarcer water supplies. It also mentions the inadequate infrastructure for effluent collection and treatment. Another unsolved problem is that of the environment-friendly disposal of the growing quantities of domestic and industrial waste.

The following investment programs, listed in the DEG report, are intended to address the problems that represent the greatest threat to the environment: Bangkok Metropolitan Administration (BMA) effluent program (10.5 billion baht); BMA solid waste disposal program (6.0 billion baht); Public Works Department's effluent treatment program for municipal areas outside Bangkok (5.7 billion baht); Industrial Estates Authority of Thailand's infrastructure improvement program (no value stated); regional environmental protection plan for the eastern seaboard (0.9 billion baht).

The report describes two likely market development scenarios over the next 10 years. The scenario that assumes a growth rate estimates the environmental technology market for 1993 to 2003 at around 234 billion baht. The lower-growth scenario assumes a market volume of around 110 billion baht.

The greatest demand for environmental technology comes from the drinking water and effluent treatment sectors (35 percent and 40 percent respectively). The greatest sales success is achieved by suppliers whose contacts with the small number of local agencies date back many years. Imports from Japan and the United States each account for around 25 percent of the present market. The European share of the market is estimated at 20 percent and the local share at around 30 percent.

It is predicted that agents and Thai firms that manufacture locally developed systems based on foreign know-how and the selective import of key components will in future become increasingly important in servicing the market. Suppliers should also guarantee constant updating for the plants that they set up, so as to satisfy the need for more innovation and improved efficiency. In this connection, the major role played by local assembly in project implementation is welcomed by the Thai authorities.

The (English-language) environment report on Thailand can be obtained from DEG, at the price of 150 German marks. The address is: DEG (attention Frau Spoelgen), Belvederestr. 40, D-50933 Cologne (Mungersdoerf), tel. (0221) 4986-230, fax (0221) 4989-104.

Albania

Ministry Holds Conference on Environmental Protection

AU1007201793 Tirana ATA in English
1011 GMT 10 Jul 93

[Text] Tirana, July 10 (ATA)—A conference organised by the Ministry of Health and Environmental Protection in cooperation with the World Bank, which began yesterday, focused on the general strategy on environmental protection on a national scale.

The Albanian Government, said Lirim Selfo, chairman of the Environmental Protection Committee, has envisaged for this purpose 30 million dollars for the current five years. He also pointed to the negative phenomena affecting the environment, such as the cutting of woods and ruining of over 280 thousand hectares over 50 years, the pollution of air, water, and land due to the use of old technology in industry, etc. Mr. Selfo said that areas, such as Elbasan, Rubik, Lac, Vlore, Fier, and Ballsh are mostly affected by these negative phenomena.

The participants in this conference said that in general all the cities of Albania lack facilities to clean the water and the drinking water network is old and not maintained.

In order to eliminate these phenomena, the Albanian Government, in cooperation with the World Bank, has drafted the draft-plan which envisages organisational, legislative, and technical-professional measures. The general cost of this project is 8 million dollars and it will be supported by the World Bank, European Community, International Monetary Fund, and the World Bank for Reconstruction and Development.

No Funds To Eliminate Store of 'Harmful' Toxic Pesticides

AU1607154193 Tirana ATA in English
1011 GMT 16 Jul 93

[Text] Tirana, July 16 (ATA)—Since last September more than 600 tons of expired pesticides were stored in Albania. It was donated as an emergency aid by a German firm, but soon tests proved that they were harmful to the health of people and environment.

The Environment State Protection Committee is concerned with the elimination of these toxic substances. It takes large amounts of money to do this and no one in Albania is able to afford this. One of the specialists of this committee declares that in case they are not eliminated, it is the people's health who pay for this.

Bulgaria

World Bank Supports Environmental Project With Romania

AU1407201493 Sofia BTA in English
1813 GMT 14 Jul 93

[Text] Siliстра, July 14 (BTA)—The World Bank is inclined to finance the implementation of Bulgarian-Romanian projects on the reconstruction of environmental polluters, the Bulgarian Minister of the Environment, Mr. Valentin Bosevski, said at today's press conference in the Danubian town of Siliстра. According to Minister Bosevski, this marked a new phase in the relations between Bulgaria and Romania in the field of environment. At the meeting of the ministers of the environment of Bulgaria and Romania to be held at the end of September this year, the Bulgarian side will propose to appoint teams which will carry out an expert technological examination of the enterprises polluting the environment and work out joint projects for their reconstruction. According to Minister Bosevski, the Convention on Environmental Cooperation ratified by the two countries has been practically inoperative so far. The intergovernmental commission has not been provided with a statute, no nuclear and chemical safety teams have been set up, he said.

The Bulgarian side is working on a package of proposals aimed to stop the inefficient gathering of environmental pollution facts and standardize the two sides' approach to the settlement of their environmental problems. Though not invited, a group of citizens came to the press conference to express their concern over the trans-boundary pollution of the air in Siliстра before Mr. Bosevski.

The Bulgarian towns of Ruse and Siliстра are the most badly hit by the harmful emissions of the Romanian plants situated near the border.

Cooperation With Greece on Environmental Protection

AU1907183493 Sofia BTA in English
1727 GMT 19 Jul 93

[Text] Sofia, July 19 (BTA)—The second Bulgarian-Greek Congress on Protection of the Environment and the Cultural and Historical Heritage will be held in the Greek town of Elatia from July 30 to August 1, Dimitri Hajipanayotis [spelling as received], chairman of the organizing committee, told a news conference here today. The first bilateral meeting on environmental protection in the Rhodope area was held in Chepelare (southern Bulgaria) last August. Thirteen Greek and three Bulgarian Green organizations will attend the Second Congress.

The principal objective of the congress is to set up a Bulgarian-Greek organization for cooperation in the protection of the environment and the cultural heritage,

said Mr. Hajipanayotis. We hope the two countries will host the congress by turns on an annual basis, he added.

We expect this meeting, which our Greek colleagues want to become a congress, will help build fruitful cooperation between Bulgarian and Greek environmentalist organizations, said Yordan Danchev, chairman of the Bulgarian Union for Protection of the Rhodopes.

Government Plans Measures To Protect Black Sea Coast

AU0907200393 Sofia BTA in English
1806 GMT 9 Jul 93

[Text] Sofia, July 9 (BTA)—“Bulgaria's Black Sea coast is the first area drawing attention from the Ministries of the Environment and of Territorial Development and Construction, which are going to work out a special law. The first stage is the coastal development and protection ordinance, intended to regulate land use and development,” First Deputy Territorial Development Minister Petko Evrev told a press conference today. The ordinance was passed by the government on June 20.

“A statutory act is necessary in connection with the changes in the way the land is used,” Mr. Evrev said. “3,000 ha [hectares] have been built up by the holiday-making industry, which creates a danger for the environment,” he said.

“The government this year has budgeted 74 million leva for the protection of the Black Sea environment, which will, basically, be spent on building waste-treatment facilities,” Deputy Environment Minister Branimir Natov said. The World Bank has granted 340,000 dollars for the protection of the Bulgarian Black Sea coast, officials told the press.

Czech Republic

Parliament Approves Bill Banning 'Ozone-Harming Substances'

AU1207134993 Prague CTK in English
1910 GMT 8 Jul 93

[Text] Prague July 8 (CTK)—The Czech Parliament today approved a bill banning the production, use and import of ozone-harming substances.

The law, effective as of April 1, 1994, bans the production, use and import of the three substances containing fluor—Halon 1211, Halon 1301 and Halon 2402. As from January 1996 the law will be applicable to another 17 substances. The import of ozone-harming substances is prohibited from January 1, 1994.

Until the law takes effect, producers and importers of these substances will have to pay a 100-crown (3.3 USD) charge for a kilogram of the produced or imported ozone-harming substance. The money will go to the State Fund for the Environment.

Fines ranging from 2,500 to 500,000 crowns (approximately from 90 to 18,000 USD) will be imposed on producers violating the law. In cases of repeated violation, the initial fine will be increased up to five times. 50 percent of the money will go to the local government of the area in which the producer is situated and the rest to the State Fund for the Environment.

Hungary

No Effects From Russian Nuclear Explosion

LD2007170993 Budapest MTI in English
1622 GMT 20 Jul 93

[Text] Budapest, July 20 (MTI)—No effects of the nuclear explosion in the Russian town of Chelyabinsk on Saturday have been felt in Hungary, Captain Gusztav Micskey of the Hungarian Army's chemical-radiation monitoring and evaluation service told MTI.

The explosion occurred in a plutonium isolating installation of a military factory in the Russian town.

The Hungarian Army's monitoring system is sensitive enough to detect radiation level changes caused by rain or atmospheric pressure. Data is recorded every ten minutes, computer analysed, and forwarded to the national centre three times a day.

Argentina

Menem, Provincial Governors Sign Environmental Pact

PY0707001793 Buenos Aires BUENOS AIRES HERALD in English 6 Jul 93 p 11

[Excerpt] (DYN-NA)—President Carlos Menem, Buenos Aires Mayor Saul Bouer and 17 of the country's 23 governors signed a federal agreement last night in the Government House's Salon Blanco.

The agreement calls for the promotion of development and environmental preservation among the federal states and the national government.

Accompanied by Interior Minister Gustavo Beliz and by Environment Secretary Maria Julia Alsogaray, Menem called for representatives of the interior of the country to give "greater attention" to environmental preservation.

"We are not going to continue destroying our habitat and our living because it would destroy all of us."

The pact promotes environmental growth in national lands, establishing agreements between the federal states and between the states and the federal government.

It calls for the co-ordination of environmental projects among the entities and the maximum level of attention on natural resources.

The agreement was signed by officials from the provinces of Chubut, Rio Negro, Catamarca, Tucuman, San Luis and Santiago del Estero apart from the governors. [passage omitted]

Environmental Group Starts Campaign Against Deforestation

PY1907213093 Buenos Aires BUENOS AIRES HERALD in English 17 Jul 93 p 12

[Text] Cordoba—The foundation for the Defence of the Environment (FUNAM) this week announced the start of a national campaign against deforestation and the privatization of Argentina's national parks.

In a statement released to the press, FUNAM said it was collecting signatures for a petition to be handed to President Carlos Menem and national legislators. The group opposes plans to sell off the country's national parks and also seeks a reform of the current National Parks Administration.

It is further calling on the Menem administration to include biodiversity conservation as a priority issue on its government agenda.

In its press statement, FUNAM blamed Environment Secretary Maria Julia Alsogaray for policies which it said were leading to the steady deterioration of the country's national forests.

"While plans are being prepared to privatize the parks, the logging of native forests continues nationwide at an alarming rate," FUNAM's President Raul Montenegro said.

"We have been losing an average one million hectares per year. At this rate, our forests will be wiped out by the year 2020," he added.

According to FUNAM, trafficking in wildlife species is also rising unchecked and has placed Argentina among the ten countries with the poorest record of fauna administration.

In related developments, the Environment Secretariat said it had raided the private zoo Mundo Animal and seized 166 exotic animals reportedly smuggled into the country, including 38 African lions, five Bengal tigers and several species of monkeys and birds.

Brazil

Need for Nuclear Waste Dump Viewed

PY0607160093 Sao Paulo O ESTADO DE SAO PAULO in Portuguese 5 Jul 93 p 12

[Article by "T.M" all figures as published]

[Text] Rio de Janeiro—Brazil does not yet have a definite solution for the storage of about 8,600 metric tons of nuclear waste and 250 expended radioactive elements that are in temporary stores in the country. Likewise, there is no solution to the fate of about 17,000 metric tons of Cake-2 [Torta-2], a byproduct of the processing of monazite sand—which contains uranium and thorium, both strategic materials. Moreover, the National Nuclear Energy Commission (CNEN) has only 250 inspectors to oversee 33,000 radioactive elements used at 1,500 units throughout the country.

Physicist Laercio Vinhas, a director of the CNEN, has said that some elements have a life of up to 1,600 years. Cautiously, however, Vinhas said that all nuclear material is very well stored, without any risk for workers or the population, adding: "Not even the tons of yellow cake [preceding two words in English] (enriched uranium), that is stored in places that are kept secret for strategic reasons, represent any risk." The lack of adequate storage for atomic waste and radioactive elements (used in medical centers, hospitals, and by the industry), means that some research institutes are becoming cemeteries for nuclear waste.

This is the case of the Institute for Nuclear and Energy Research (IPEN) in Sao Paulo, and the Nuclear Engineering Institute (IEN), in Rio de Janeiro. Today, 143 metric tons of atomic waste is stored at the IPEN and 4 metric tons is stored at the IEN. The Nuclear Technology Development Center (CDTN) is storing 17 metric tons of nuclear waste, the town of Abadia (Goias) houses more than 6,000 metric tons, and the Angra dos Reis nuclear complex houses more than 2,420 metric tons.

Nuclear experts told AGENCIA ESTADO that the storage of waste in places like IPEN or IEN breaks the rules of the CNEN because units intended for this purpose must report on the environmental impact and other specifications. Experts say that such reports must be made by an organization independent of the CNEN.

file

Ecological Group Supports Reitze's Candidacy for President

*PY1407181693 Santiago Radio Cooperativa Network
in Spanish 1100 GMT 14 Jul 93*

[Text] The Ecologist Movement Party [Partido Movimiento Ecologista] has announced its support for the

presidential candidacy of Cristian Reitze and the participation in a common legislative ticket with the Humanist-Green Alliance under the name of New Left [Nueva Izquierda].

Flavio Neto, president of the Ecologist Movement Party which has registered as a legal political party in the First, Second, and Third Regions, asserted that Reitze is the only logical representative of the leftist sector that aspires to significant changes in the country.

Jose Gabriel Ferez, coordinator of the New Left, said that the common legislative ticket will be legally represented by the Humanist-Green Alliance and that the Ecologist Movement Party will bring together independents and former members of several leftist parties.

Ferez added that they will register the New Left ticket at the Electoral Service today and that they hope to have candidates for the Chamber of Deputies in 40 districts and for the Senate in four of the jurisdictions in dispute.

India

Chemical Institute Develops Substitute for CFC's

*BK1807092693 Delhi All India Radio Network
in English 0830 GMT 18 Jul 93*

[Text] India has joined a select band of countries producing hydrofluorocarbons [HFC's], a substitute for the harmful chlorofluorocarbon [CFC]. The technology was developed by the Hyderabad-based Indian Institute of Chemical Technology. With the development of hydrofluorocarbons, chlorofluorocarbon can now be phased out. CFC, used extensively in refrigeration, air conditioning, and the film industry, causes extensive damage to the ozone layer which protects life systems by offsetting ultraviolet radiation reaching the earth. The Hyderabad institute now plans to install a prototype plant for

the production of HFC's and is approaching international agencies for funding the plant. The prototype plant is expected to be ready by December next year.

UK To Give 3-Billion-Rupee Aid for Environment Projects

*BK0607161693 Delhi All India Radio Network
in English 1530 GMT 6 Jul 93*

[Text] Britain has agreed to provide an additional assistance of 300 crore rupees to India for its environment-related projects. The areas to be covered include pollution control and chlorofluorocarbons and carbon dioxide emissions. This was indicated by the British minister for overseas development assistance, Mrs. Linda Chalker, to the minister of state for environment and forests, Mr. Kamal Nath, during his recent visit to London.

Russia**Krasnoyarsk Retains Ban on Ukrainian Spent Nuclear Fuel**

*PM1207133193 Moscow IZVESTIYA in Russian
8 Jul 93 First Edition p 4*

[Aleksey Tarasov report: "Krasnoyarsk-26 Still Refusing To Accept Spent Nuclear Fuel From Ukraine"]

[Text] Krasnoyarsk—Krasnoyarsk Kray Inner Soviet, having visited the mining and chemical combine in the closed city of Krasnoyarsk-26, has examined the question of lifting last year's kray soviet presidium decision to ban the combine from accepting spent nuclear fuel from four Ukrainian nuclear power stations for storage.

And, although 15 deputies agreed to lift the ban, the decision was blocked by two Inner Soviet members. Thus, the most important technological chain in nuclear power generation remains broken, despite the pressure from Ukraine and Krasnoyarsk nuclear workers. I would recall that the Krasnoyarsk-26 combine is the only plant in the CIS that can store fuel containers [kasseta] removed from water-cooled, water-moderated VVER-1000 power reactors.

Underfunding Causing Krasnoyarsk-26 Nuclear Explosion Risk

*PM2207100993 Moscow PRAVDA in Russian
22 Jul 93 p 1*

[Nikolay Krivomazov report: "Will There Be an Explosion at Krasnoyarsk-26?"]

[Text] Not a day goes by without a report from Siberia about unpleasant matters at the once-banned underground "atom city."

But the latest information from Krasnoyarsk-26 exceeds all bounds. The Yenisey is groaning and raging as a result of all the untruth showered upon it. Let me cite the "Appeal to Citizens of Russia and the World Public Adopted at an Enlarged Session of the Joint Trade Union Council of the Mining and Chemical Combine":

"Guided by exclusively human considerations, the trade union of the Krasnoyarsk nuclear enterprise warns the Russian and world public of a possible nuclear disaster!"

"Over decades of work at the enterprise thousands of tonnes of highly radioactive liquid and solid waste have accumulated. This represents millions of curies, or several 'Chernobyls'!"

"The complex processes are controlled by thousands of highly skilled workers and specialists."

"An extremely tense situation has now developed in the collective. This is the result of erratic funding of the enterprise, constant delays in the payment of wages, and

the sharp fall in working people's living standards. Wages at the enterprise are among the lowest in the region."

"Workers and specialists are leaving the enterprise. There are no skilled replacements for them. A situation could arise when the personnel will not be in a position to control the manufacturing processes."

"The last operating power-generating reactor cannot be stopped because it provides heat for a city of 100,000 people and all other enterprises and facilities. There is no other source of heat."

"Furthermore, the enterprise complex includes a radiochemical production facility with thousands of tonnes of highly radioactive waste which it will take at least seven years to process and make safe. This work can be carried out only by highly skilled personnel trained in the control of complex radiotechnical processes."

"Behind this lie thousands of people's lives, families, and their futures."

"But at present we are increasingly worried by questions of ensuring the safe operation of this unique enterprise."

"We do not intend to overstate the possible danger. We wish to bring to the notice of Russia's citizens and the world public the real situation at our nuclear-risk enterprise."

"Remember the 'Chelyabinsk legacy,' the Chernobyl tragedy, remember the 'Tomsk legacy.' We don't want there to be a 'Krasnoyarsk legacy!'"

"In recalling this we are warning of a possible disaster near Krasnoyarsk! If such a thing were to happen it would not only be Krasnoyarsk Kray which would suffer—many, many regions would suffer."

"Aware of all the seriousness of what we have said above, we insistently urge Russia's citizens and the world public to influence the Russian Government to immediately take the most urgent measures to fund our enterprise. Normal working and living conditions must be created for the personnel."

This appeal has already been received by a number of big newspapers. Bits of it have been published. Far from everyone has taken notice of or appreciated what it has to say.

We are therefore publishing the Siberians' appeal virtually in full and ask just one question: Will there be a nuclear or a social explosion at Krasnoyarsk-26?

Krasnoyarsk-26 Appeal Sees Threat of 'Siberian Chernobyl'

PM2007134193 Moscow IZVESTIYA in Russian
20 Jul 93 First Edition pp 1-2

[Aleksey Tarasov report: "Specter of Chernobyl Abroad in Siberia"]

[Text] Krasnoyarsk—The nuclear workers of the closed city of Krasnoyarsk-26 have issued an unprecedented appeal to the citizens of Russia and the world. "We do not want to overplay the potential danger. We want to bring to the world public's attention the real state of affairs at our enterprise, which poses a nuclear hazard," the Siberian arms makers say in their well-reasoned and weighty warning "about a potential catastrophe at Krasnoyarsk."

I have paid a number of visits to the underground plants at the gigantic mining and chemical combine, where I talked with the people who created the Soviet state's nuclear shield, and I can confirm that it really is a long time now since they had here the kind of stability and reliability which should be an integral part of the nuclear production processes. Because of the low level of pay and constant delays in its payment highly skilled workers and specialists are leaving. There is no one to replace them. Tension is rising in the thousands-strong collective.

IZVESTIYA has written a number of times about the extremely complex situation at the mining and chemical combine's facilities, problems not confined to finance alone. A year ago, the arms makers set up a strike committee and threatened to bring the continuous production cycle to a halt. Even now, however, the federal authorities are not fulfilling their decisions on the priority allocation of cash to the nuclear workers. It is patently obvious that safety standards are inconceivable unless the state pays the utmost attention to nuclear production units and the state's leaders, who have stockpiled mountains of weapons-grade plutonium, should not forget this legacy. But... The facts show that with the end of the "cold war" Atomgrad, hidden away in the mountains on the Yenisey River, has essentially been left to its own devices. The politicians no longer need weapons-grade plutonium and they have simply forgotten the people producing it.

However the nuclear workers' appeal makes no mention of that. They seem to have grown tired of appealing to the reason of the Russian leadership and are now giving the world public nothing but the plain facts. Over decades of work here the mining and chemical combine has accumulated thousands of tonnes of highly radioactive liquid and solid waste—this is equivalent to hundreds of millions of curies or several Chernobyls. One underground reactor is still in operation and it is not feasible to switch it off on the near future—it provides heat to the city with its population of 100,000. The mighty radiochemical production unit is still in operation and it will take at least seven years to process the waste and render it safe. "It follows from this," the nuclear workers conclude, "that the production unit cannot be stopped and closed down like a pasta factory."

The appeal was adopted at an enlarged session of the mining and chemical combine's amalgamated trade union committee. The combine's leadership did not sign it. However, V. Lebedev, the general director of the combine, has stressed more than once that he does not rule out the possibility of an accident. For a long time now leading specialists at the enterprise have made no secret of the extraordinary danger of the underground production units. In short, the nuclear workers of Krasnoyarsk-26 are bluntly warning the world about the prospects of a Siberian Chernobyl (which, incidentally, according to independent experts, could be several tens or even hundred of times worse).

In the underground production units of the mining and chemical combines two reactors which produced the filling for nuclear warheads have been shut down. But this should not reassure the public. Nuclear materials have a life of their own and it must be kept under constant supervision. Meanwhile the anxiety in the collective is affecting production discipline. S. Podobed, chairman of the mining and chemical combine trade union, writes in KRASNOYARSKAYA GAZETA, which published the nuclear workers' appeal, that people are "on the verge of despair and have begun to turn up for work drunk... The chemicals needed for the management of technological processes have run out, and there is no money to buy them..."

The nuclear workers are appealing to the citizens of Russia and the world to urge the Russian Federation Government to immediately adopt effective measures to finance the mining and chemical combine. Yes, there are elements of blackmail in this appeal. But if the full drama of the situation on the islands of the "nuclear archipelago" is clearly realized it is absolutely clear that the nuclear workers have the moral right to exert such pressure because they are defending not only their own personal and departmental interests but the interests of all mankind.

Radiation Facilities Worry Moscow Authorities, Scientists

MK2007091093 Moscow SEGODNYA in Russian
No 35, 20 Jul 93 (Signed to Press 19 Jul) p 7

[Veronika Romanenkova report in "Atom in Our Home" column: "Municipal Authorities Concerned Over Radiation Safety"]

[Text] A Moscow city government session will today discuss the radiation situation in the capital. There are approximately 1,000 organizations in Moscow that are in some way or other connected with radiation. These are enterprises using nuclear fissionable materials; institutions where they are used as fuel for research facilities; and establishments where radioactive substances and products are used, including medical X-ray installations and isotope-based fire alarm sensors.

Oversight of nuclear and radiation safety on them is exercised by the central district of the State Committee

for the Supervision of Nuclear and Radiation Safety [Gosatomnadzor]. According to the payroll there should be 350 people on its staff, but it is merely 60 percent manned. Naturally, there is a shortage of funds. This may be why Gosatomnadzor has so far inspected only 200 Moscow enterprises. Only an insubstantial number of organizations have received no critical comments, while with others there are problems. Thus, for instance, a facility storing "materials in nuclear hazardous quantities" at the Institute of Chemical Technology was sealed. It was banned from conducting work with materials in nuclear hazardous quantities—300 grams per workplace—at the Institute of Inorganic Materials. And following an inspection at the Russian Scientific Center (RCC)—the Kurchatov Institute—two (MR and IR-8) research reactors out of seven were taken off-line for failing to conform to existing safety standards.

A logical result of the checks and criticism made should be their correction, but, owing to a lack of funds, the organizations themselves are in no position to do this. The consequences are far from comforting. MR reactors can be used to simulate working conditions at 10 nuclear power stations and thereby forecast their potential defects. The IR-8 reactor is designed for the production of a radiation-based medical preparation, tekhnitsiy. The stoppage of these reactors has made fundamental research impossible, and 52 Moscow clinics have been left without tekhnitsiy supplies.

Moreover, the RCC says that by suspending research reactors, Gosatomnadzor took guidance from the rules and norms of safety in nuclear power stations, whose hazardousness is thousands of times higher than that of research reactors (with regard to which no special rules have been established yet). In addition, the "Kurchatov reactors," RCC experts say, are fairly safe, and nothing would happen to them even if the building collapsed or an aircraft crashed into it.

It is difficult to say who is right in this particular situation since both Gosatomnadzor and the Kurchatov Institute have their own case to argue.

And while the dispute continues, Moscow's sole special laundry that had serviced the radiation-related institutes and enterprises has been closed. At present, special service clothes are being sent to regular laundries.

Leak of Radioactive Particles From Plant in Chelyabinsk

*LD1907135393 Moscow ITAR-TASS in English
1336 GMT 19 Jul 93*

[By ITAR-TASS correspondent Anna Bakina]

[Text] Moscow July 19 TASS—Radioactive particles escaped at the Mayak radioisotope plant in Chelyabinsk-65, a city in the Urals.

Aerosols of alpha-particles with the radioactivity of 0.2 millicurie escaped into the atmosphere through the ventilation at a unit for sorption cleaning on radioisotope plutonium-238 at 16:15 on July 17, Vladislav Petrov, chief specialist of the Information and Public Relations Agency of the Russian Ministry of Atomic Energy, told ITAR-TASS. The discharge of radioactive particles makes up three per cent of the permissible daily limit of discharge for an enterprise. The accident has occurred when a sorption column lost airtightness.

Petrov said the accident can be assessed at the seven-level international scale as the first level, a slight accident.

A special commission is to establish why the column's airtightness failed. The commission has already been formed in the Ministry of Atomic Energy and will shortly fly to Chelyabinsk-65.

Atomic Power Ministry on Chelyabinsk-65 Radiation Leak

*LD1907164293 Moscow Radio Rossii Network
in Russian 1600 GMT 19 Jul 93*

[Text] The incident at the radio isotope works Chelyabinsk-65 is estimated as insignificant according to an international scale, said the press service of the Russian Atomic Power Ministry. Last Saturday radioactive substances were discharged into the atmosphere. According to INTERFAX, the employees were not subjected to excessive radiation and sustained no injuries.

Criticism of 'Evasive Answers' on Chelyabinsk-65 Accident

*PM2107090193 Moscow IZVESTIYA in Russian
21 Jul 93 First Edition p 2*

[Report by Andrey Illesh and Valeriy Yakov: "Discharge of Radioactive Substances at Chelyabinsk-65 Not as Harmless as the Ministry of Atomic Energy States"]

[Text] As already reported in the press, radioactive contamination of the working premises occurred at the Mayak Production Association near the city of Chelyabinsk at 1645 hours on 17 July, and there was a partial discharge into the environment. The Russian Ministry of Atomic Energy asserts that, according to the seven-point scale of the International Atomic Energy Agency, this incident is rated at level one—insignificant.

According to the preliminary data the incident was due to a seal failure in the sorption column, and alpha particles with an activeness of 0.2 millicuries or 3 percent of the maximum permissible daily norm for discharges from the enterprise were released through the ventilation system into the atmosphere. The sorption column has a capacity of 20 liters and is housed in a ferroconcrete pit. Workers were not exposed to excess radiation, there were no injuries, and no shut-off valves [perekrytiye] or premises were destroyed. A Ministry of Atomic Energy commission is investigating the causes of the column seal failure.

In the opinion of representatives of the international organization Greenpeace in Russia, the discharge figure may be understated, as has repeatedly happened with similar occurrences. Especially since this time, too, the public was not informed of the accident till two days later.

But even three days after the discharge IZVESTIYA has not been able to obtain detailed, intelligible, or exhaustive information from the Russian atomic departments on what actually happened at Plant 45 of the Mayak Production Association and what effect this might have on the lives of the local population. Evasive answers such as "the commission has begun work" and "we will report further on the results of the investigation" do nothing to boost optimism or confidence. At least one thing is clear: The Mayak Production Association is too important an enterprise for a report of an accident at one of its plants to be regarded as ordinary. Situated 15 km east of the city of Kyshtym and 70 km from Chelyabinsk, Mayak carries out the reprocessing of spent nuclear fuel from VVER-440 [water-cooled water-moderated] reactors and spent fuel from the Navy and the submarine and ice-breaker fleets. Uranium-plutonium assemblies for nuclear electric power stations are produced here, there is a radioisotope plant in operation, and there are 24 burial chambers for highly radioactive waste...

In 1957 the combine suffered the worst accident in the entire history of the industrial use of nuclear energy. Furthermore, it was only 30 years later that the Soviet Government admitted the accident and IZVESTIYA wrote about it for the first time. Lesser incidents were not reported at all. This time the report on the accident came within two days. Once more in a reassuring tone and without details.

Radiation Situation at Chelyabinsk-65 Seen as Normal

LD2207085993 Moscow ITAR-TASS in English
0852 GMT 22 Jul 93

[By ITAR-TASS correspondent Yevgeniy Tkachenko]

[Text] Chelyabinsk July 22 TASS—"A radiation discharge of alpha aerosols has been localised in the production premises of the radioisotope plant Mayak and there is no threat to the residents of the city of Chelyabinsk-65 and nearby territories, as well as to the plant personnel and the environment. No deactivation is needed outside the production premises," according to a joint commission which included representatives of the State Committee for Emergency Situations, the Russian Ministry of the Nuclear Power Industry, the Ecological Committee, a regional branch of the Institute of Biophysics and several local organisations.

"The combined discharge of alpha active aerosols through a 120-meter ventilation conduit totalled 0.192 millicurie on July 17. The plant's total discharge of alpha

active aerosols since the beginning of the year amounted to 0.22 per cent of the permitted annual level," the commission said.

The commission also checked the adjacent territory up to ten kilometers away from the premises and several districts in the Chelyabinsk region. "No deviations from the previously registered radiation level were detected."

Specialists believe it was a local accident confined to the plant boundaries. The damaged unit is a 1.5-meter high pipe with a diameter of 16 millimeters which is fully covered by a layer of concrete and stainless steel. The causes of the accident are being investigated.

Plans To Inspect Sunken Submarine, Raise Rescue Chamber

PM1907125593 Moscow IZVESTIYA in Russian
17 Jul 93 First Edition p 1

[Nikolay Burbiga report: "Komsomolets Submarine's Rescue Chamber To Be Raised"]

[Text] The newspaper has learned that an expedition is planned in the near future to the scene where the Komsomolets nuclear submarine sank. The main purpose of the expedition is to investigate the state of the vessel and radiation levels.

If conditions are favorable, it is planned to raise the rescue chamber lying on the bottom near the submarine, in which, as you know, the dead commander and one of his officers are to be found.

The expedition comprises the Akademik Keldysh research ship with its manned Mir submersibles, as well as Navy rescue and auxiliary ships.

There were five men in the chamber when the submarine sank. When it hit the bottom the chamber became detached from the hull and floated to the surface along with the submariners inside it. Then, specialists believe, internal air pressure caused the upper hatch door to come unlatched and threw two men out of the chamber (another version has it that the submariners in the rescue chamber opened the hatch door themselves).

The chamber filled with water through the open upper hatch and sank at a depth of 1,675 meters some 800-900 meters northeast of the Komsomolets.

The expedition is being organized by the Russian Federation Government's Committee for Special Underwater Work.

Academic Suggests Burying Nuclear Waste in N-Test Cavity

PM1607120593 Moscow KOMSOMOLSKAYA PRAVDA in Russian 14 Jul 93 p 2

[Observer Leonid Repin article: "It Could Turn Out Worse Than Chernobyl. Radioactive Waste Accumulated at Nuclear Electric Power Stations Harbors Deadly Danger"]

[Excerpts] Nizhniy Novgorod—[passage omitted] At a conference of the Nuclear Society I met V.B. Adamskiy, an eminent theoretical physicist and A.D. Sakharov's colleague in the creation of the hydrogen bomb. [passage omitted]

Adamskiy has begun tackling problems of safety and, in particular, the burial of radioactive waste.

The idea is simple and beautiful: If a nuclear bomb is exploded in a strong natural salt stratum at a depth of approximately 1 km, a colossal cavern is formed with a capacity of several hundred thousand cubic meters. This is a virtually ideal capacity.

We now have two such ready-made capacities on the Caspian Depression. Oil has been pumped into one, the other is empty. It is only extremely negative public opinion, from time to time stirred up by incompetent fighters for a clean environment, that prevents this huge cavity from being turned into a burial ground for radioactive waste. People fail to understand one simple thing: Right now, after the explosion, the induced [navedennaya] radioactivity in this niche is such that, even if it is filled to the top with radioactive waste from nuclear electric power stations, it will not be any greater.

Meanwhile there is a really huge volume of liquid radioactive waste around the country—approximately 150,000 cubic meters—and these cubic meters of deadly danger are kept in ordinary iron barrels in the stations' grounds. The barrels are slowly rusting....

So, why ponder and waste time on fruitless arguments, when there is a ready-made receptacle capable of resolving the problem overnight!

And yet, how many useful undertakings we should have implemented but never managed it.... Only this time it is a special case, which leaves no possibility for vacillation and disagreements. A damnably dangerous case.

Ecologists Say Post-Arms Race Clean-Up Process Too Slow

LD1507191493 Moscow ITAR-TASS in English 1821 GMT 15 Jul 93

[By ITAR-TASS correspondent Anna Bakina]

[Text] Moscow July 15 TASS—The arms race is over but the process of overcoming its ecological aftermath is rather slow. This point of view is shared by the MPN

Ecological Organisations (USA) and the Socio-Ecological Union (Russia). The results of their cooperation were the subject of a press conference held at the Russo-American Information Press Centre here on Thursday.

"After visiting the United States and discussing ecological security issues with our American counterparts, we arrived at a conclusion that many aspects of the problems are common to the U.S. and Russia," said Lidia Popova, director of the union's "Power Industry and the Environment" programme.

"Their commonality is primarily in the fact that nuclear detonations that were conducted on a mass scale adversely affected the health of the population," she said.

Ecologists believe that a solution to the problem lies on the surface if it is tackled in earnest. Paramount tasks are to clean up the environment from radio nuclides released into the atmosphere and to stop the production of plutonium. Besides, insufficient attention is paid to the termination of the discharges of heavy metals and chemical waste in general into the atmosphere.

Experts took note of the recent statement by U.S. President Bill Clinton on the extension of the moratorium on the tests of nuclear weapons until October 1, 1994, and assurances that the Americans would not be the first to resume nuke tests.

In addition, Russian ecologists said the ecological legislation in the United States is developed much better than that in Russia. Their opinion is that the Russian Government needs to take several more serious steps to enforce the laws that protect the environment and the health of the nation.

Yeltsin Decrees Formation of Ecological Safety Commission

LD1407131193 Moscow ITAR-TASS in English 1223 GMT 14 Jul 93

[Text] Moscow July 14 TASS—One of the main tasks of an inter-agency Ecological Safety Commission of the Russian Federation Security Council is to prepare proposals on matters concerning the domestic and foreign ecological policy of the Russian Federation and strategic problems of state ecological security. The commission was formed by a decree which President Boris Yeltsin signed on Tuesday.

The commission's main functions are in particular to evaluate domestic and external ecological threats to the vital interests of the individual, society and the state, and to prepare proposals aimed at resolving ecological problems involved in the protection of the population's health.

The commission will be a standing working body at the Russian Federation Security Council. The commission is chaired by presidential adviser Aleksey Yablokov.

New Ecological Troops Created

PM1407160793 Moscow *IZVESTIYA* in Russian
13 Jul 93 First Edition p 8

[Report by Kim Smirnov: "Defense Ministry Creates New Troops—Ecological Troops"]

[Text] It is planned to create the first experimental units for monitoring and restoring the environment in 1994 on the basis of the Moscow Military District and the Northern Fleet.

The armed forces have always been among the most notable violators of nature's equilibrium. Here is just one example from the life of the rocket forces. Around the testing ranges in Kapustin Yar and Plesetsk about 9 million hectares were contaminated during the fall of rocket stages [otdelyayushchiesya chasti] to the ground. Up to 20,000 tonnes of metal structures were scattered over the land, contaminated with a whole range of dangerous substances, and 200 tonnes of fuel were poured out. In some places concentration of highly toxic substances reaches 270 mg per kilogram of soil.

Similar data could be cited for other categories of troops. So that the army ecological subunits will from the first be faced with very serious tasks to normalize the environment.

A fundamental element is that they must be created outside the numerical strength of the armed forces, outside the budget expenditure on defense, and belong to a separate natural conservation section of the Russian budget. Otherwise the notorious residual principle could operate in the army itself: Ecologists will be outcasts as far as the general troops leadership is concerned and a "more important" application will always be found for the funds earmarked for ecology.

During the recent parliamentary hearings it was suggested that changes be made to the draft federal "law on alternative service" and that service in the ecological troops be considered one form of alternative service. Major General S. Grigorov, chief of the Defense Ministry directorate for ecology and special protection means, believes that we should be in no hurry to do this. Lest we turn the ecological battalions into something like the construction battalions. And service as an army ecologist requires a very high degree of personal qualifications, knowledge, and health.

And another thing, the major general believes, is that these troops must enlist people with specific moral qualities, who love nature and are ready for hard, thankless work to protect and save it. He was told by specialist ecologists from the British army: We all serve the queen, but it is important to understand that you are not defending Britannia in general but this specific land beneath our feet.

That is why the ecological troops will not be concerned exclusively with internal army problems. It is planned

that they will take part on an economically accountable basis in nature conservation work at the most important civilian establishments.

Oil Refinery Modernization Improves Product, Ecology

PM1207132193 Moscow Russian Television Network in Russian 1000 GMT 8 Jul 93

[From the "Vesti" newscast: Video report by T. Yurevich and M. Bakastov, identified by caption; figures in brackets denote broadcast time in GMT in hours, minutes, and seconds]

[Text] [100806] [Yurevich over extensive views of Volgograd oil refinery] A few years ago economists passed a harsh sentence on the Volgograd oil refinery, one of the biggest of its kind in Europe, declaring that the enterprise had no future.

[A. Belousov, general director of Volgograd Oil Refinery, identified by caption] If we had not embarked on this reconstruction, the question of the complete closure of this plant would have arisen in two to three years, in my opinion.

[Yurevich] Specialists from many cities in Russia and foreign partners have helped the plant to pull itself out of the economic morass. Today the modernization of the purification installations is essentially complete. They are being re-equipped to become closed-cycle installations. The third stage of the reconstruction of the AVT-6 primary oil refining unit is also nearing completion. This will enable the enterprise, as early as spring of next year, to increase its output, produce better quality petrochemical products, and, last but not least, greatly improve the ecological situation in the city. [100849] [video shows extensive views of Volgograd oil refinery]

U.S. Nuclear Scientists Visit Tomsk-7, Share Views

LD1307101993 Moscow Radio Rossii Network in Russian 0900 GMT 13 Jul 93

[Text] Following the accident in the radiochemical section of the Siberian Chemical Combine in Tomsk-7 on 6 April this year, the town, which until recently was classified top secret, has been visited by an official delegation of U.S. nuclear scientists. At the end of the visit, they exchanged views with their hosts. The head of the American delegation, Dr. Charles Gilbert, who is the coordinator of defense programs at the Energy Department, said that there had been six accidents at similar U.S. enterprises from 1953 till 1991. American specialists shared their experience in coping with the aftermath of such accidents with their Russian colleagues, ITAR-TASS reports.

Moscow To Dump Nuclear Waste at Sea Until 1997

*OW0904081193 Tokyo KYODO in English
0741 GMT 9 Apr 93*

[Text] Moscow, April 9 KYODO—Russia will continue to dump its radioactive waste and aged reactors from nuclear submarines at sea, according to a Russian Government report.

The white paper released Thursday [8 April] said the dumping will continue because of delays in the construction of storage and processing facilities. The world learnt earlier this month the former Soviet Union carried out such dumping in waters off its far east coast, including the sea of Japan, from the late 1950s to 1991.

The white paper, drawn up by a committee of experts delegated by President Boris Yeltsin, contradicts a comment by presidential spokesman Valeriy Butov on April 4 in Niigata that Russia would never again dump nuclear waste in the ocean. The paper said there are no plans to suspend the Russian Navy's dumping, particularly of reactor coolant and other liquid waste until work begins on a land-based processing facility in 1997.

Russia will probably have to dispose at sea three submarines which are being stored with their fuel intact following accidents caused by their reactors, the document said. There is an urgent need to identify in cooperation with other countries by this summer where the material can be dumped, it said.

The paper said liquid and solid radioactive waste has been dumped at sites in the Pacific Ocean off the Kamchatka Peninsula, and in the Sea of Japan off Vladivostok. It said two nuclear reactors are included in the waste, but no checks on radiation levels have been conducted for the past 25 years at sites where solid waste was disposed.

Meanwhile, RADIOPRESS, a Japanese news agency which monitors broadcasts from Russia, said officials are monitoring radioactive contamination from Tuesday's Tomsk-7 chemical plant explosion in western Siberia because of fears it will spread. Television and radio stations in the area are announcing radiation levels around-the-clock. RADIOPRESS quoted the head of a regional civilian defense headquarters in the area as saying there is no danger to the population from the radioactive cloud released by the explosion.

Yeltsin Adviser on Merits of New Nuclear Safety Order, Number of Accidents on Rise

PM1404150993 Moscow Ostankino Television First Channel Network in Russian 2000 GMT 10 Apr 93

[From the "Novosti" newscast: Video commentary by Aleksandr Zarayelyan, identified by caption, on Tomsk-7]

[Text] [200422] [Zarayelyan over video of plant in middle-distance] Greenpeace has circulated a statement claiming that Russia's state structures are trying to

conceal the real consequences of the catastrophe [at Tomsk-7]. Despite known details about the accident, the Russian Ministry of Atomic Energy has, according to Greenpeace, issued highly contradictory information about its causes and consequences.

Another group of specialists of the Russian State Committee for Emergency Situations, headed by its chairman Sergey Shoygu, left Moscow by air for Tomsk-7 today. According to an ITAR-TASS report, decontamination work continues at the Tomsk radio-chemical plant. The contaminated area covers around 35 square km.

A commission of the State Committee for Emergency Situations and the Russian Ministry of Atomic Energy inspected the site of the explosion. Unfortunately it could not view the damaged facility because it is buried under debris. However, the spilled radioactive solution is already being pumped out. Specialists claim that the bulk of the solution remains inside the damaged tank.

Aleksey Yablokov, the president's adviser on ecological issues, commenting on Yeltsin's ordinance on measures to ensure the safe operation of nuclear power facilities which was published yesterday, declared that this was a very necessary document because in the conditions of the current economic chaos in Russia the number of accidents, including accidents in the nuclear power industry, has risen sharply. Furthermore, according to Yablokov, the Russian State Committee for Supervision of Nuclear and Radiation Safety, which is a nonministerial body, is being hampered in its work by both the Ministry of Atomic Energy and the Ministry of Defense. [200548] [video shows plant in middle-distance, vehicles on road, street scenes, building of Russian Ministry of Atomic Energy, meeting, Tomsk-7 plant including turbine hall, reactor hall, marshland, plant exterior, more video of reactor hall, men in white coats with dosimeters in the open, gamma radiation warning sign, perimeter fence, more external views of facility, and meeting]

Plan To Use Superguns To Study, Restore Ozone Layer Mooted

*PM2406104793 Moscow IZVESTIYA in Russian
22 Jun 93 First Edition p 15 (page dated 19 Jun)*

[Boris Konovalov report: "Guns Will Fire at the Sky To Protect the Planet's Ozone Layer"]

[Text] The depletion of the ozone layer around our planet is causing specialists serious concern. Because of this, the intensity of ultraviolet radiation on the earth's surface is 50-100 percent higher in Australia than in Germany, which is located in the same latitude in the northern hemisphere. Doctors are linking this with the increase in skin cancer in Australia.

A similar situation has been observed in southern regions of Chile and Argentina. It has been established that the decrease in ozone concentrations in the stratosphere is increasing the number of cataracts. The UN Environmental Program notes that a 1-percent thinning of the

ozone layer will mean an additional 100,000 people go blind. Succeeding generations will suffer a bigger impact since they will be subjected to increased ultraviolet radiation for a longer period of their life. The development of many types of plant on earth could be halted, and grain crop harvests will fall. There is a danger to forests and the biological environment of the world's oceans.

Therefore, together with a strengthening of bans on the use of chlorofluorocarbons and hydrofluorocarbons, which are destroying the ozone layer, the world community is beginning to discuss projects for restoring it. It has been suggested that aircraft could be fitted with ozone generators that would then pump ozone into the atmosphere. The idea of launching oxygen into the stratosphere, which would then turn into ozone under the influence of solar radiation, has also been mooted. But the "exhaust gases" produced by aircraft and rockets are themselves dangerous for the ozone layer.

The conversion currently under way in Russia provides an opportunity to use an environmentally clean ballistic method of protecting the ozone layer. Our country has developed very large guns with a caliber of 300 mm which are already capable of delivering heavy projectiles to an altitude of 50 km. In the longer term it may be possible to fire projectiles up to an altitude of 100 km with the aid of totally environmentally clean launchers that use an electromagnetic method of accelerating the projectiles, for example.

Specialists from the "Burevestnik" Central Scientific Research Institute in Nizhniy Novgorod and the Central Aerological Observatory are proposing to use versions of existing guns to develop ballistic launchers capable of launching about 100 kg of reagents into the ozone layer on every shot. Since the mass of ozone lost over Antarctica is about 2 million tonnes per year, it is clear that impressive batteries of launchers are required. No state on its own can afford this expenditure—the idea can only be implemented by the financial efforts of the whole of mankind. Russia's technical resources are ready to develop it today.

Without putting things off until tomorrow, the ballistic method can be used right now to perform detailed studies of the influence of various substances on the condition of the ozone layer.

Certain scientists are currently expressing the "seditious idea" that mankind's impact on the ozone layer is significantly less than that of nature. It must be noted that regular global observations of the condition of the ozone layer only began at the end of the 1970's with the appearance of appropriate devices aboard satellites. At the present time the amount of statistical data is not large.

Ye. Zhadin, senior scientific associate at the Central Aerological Observatory, who specializes in researching the ozone layer, believes that its condition is susceptible to long-term fluctuations connected with climatic conditions. In his opinion, the primary cause of anomalies in the ozone layer is long-term change in

the temperature of the world's oceans. Therefore in some years there is a particular vortex around Antarctica that prevents ozone penetrating from the mean latitudes. This results in the appearance of a considerable ozone hole over Antarctica. If this hypothesis is true, banning freons will not solve the problem.

No less important is the significance the ballistic method will have for deciding the future of stratospheric aviation. Right now the EC, the United States, and Japan are showing enormous interest in developing supersonic passenger aircraft. But these flights are supposed to take place at a height of 20-25 km, in the band where the ozone layer is at its most concentrated. It is clear that careful research is needed into the dangers of such flights.

The ballistic method is a cheap way of simulating the exhaust stream of aircraft engines and really studying how they affect ozone.

The Russian Federation Ministry of Science and Technology Policy has supported the proposal by the "Burevestnik" Central Scientific Research Institute and the Central Aerological Observatory to develop the ballistic method of studying and restoring the ozone layer. If the project becomes international, this will sharply accelerate the time frame for its implementation. Guns developed in Russia for antimissile defense can be used successfully for peaceful scientific purposes.

Caucasus/Central Asia

Azerbaijan: Oil Facilities Polluting Caspian Sea

OW1204144393 Baku Azerbaijan Radio Televiziysi Television Network in Russian 1500 GMT 1 Apr 93

[From the "Telefaks" newscast]

[Text] Our program has accompanied State Ecology Committee officials on a raid of offshore oil installations. [video shows aerial shots of oil refinery installations along the shore and an offshore oil rig] We have shown you the Shelf-1 platform, whose decks were covered in oil—oil washed into the sea by ocean waves—as well as the compressor station, which is a major contributor to the pollution of the Caspian Sea in the Neftyanyye Kamni region. Of course, all the relevant chiefs had objective reasons for the shortcomings which you also saw with the help of our movie cameras. Let us take another look at what is objective or subjective.

Yes, once again this is Neftyanyye Kamni. It is another area, but the picture remains the same. The supports, which have been standing for 40 years, can no longer withstand either the pressure of the rapidly rising level of the Caspian Sea or the wind squalls that attack the [words indistinct]. The storms are a real scourge for Neftyanyye Kamni. After every storm, entire sections of the trestles collapse. Railway sidings disappear into the

sea and fuel pipelines break. Here, another storm has cut the road to the complex of purification installations (?like these), and it is only natural that the leakage of oil into the sea can only be explained by objective factors. [video shows dilapidated installations, damaged trestles linking offshore installations, and oil dripping into a pan from a pipeline joint]

What is the reason for this leak? Is it really so difficult to tighten a few bolts? Or is it easier to catch escaping oil in a soldier's mess pan?

Georgia: Parliament Adopts Ownership Law; Environment Minister Quits

AU2107161393 Tbilisi SAKARTVELOS RESPUBLIKA in Georgian 16 Jul 93 p 1

[Unattributed report under rubric "Diary of the Georgian Parliamentary Session": "There Is a Law on the Right of Ownership"]

[Excerpts] [Passage omitted] At the end of the session, the "Greens" faction in the Georgian Parliament delivered the following statement: "For a long time now, we, Georgia's Greens, have had information that the Cabinet of Ministers have created such an atmosphere in their relations with the Ministry for the Protection of the Environment, that it has become virtually impossible for the department to carry out its functions. Therefore, Shota Adamia, the minister for the protection of the environment, has submitted a statement to the head of state-chairman of the Parliament in which he points out that, in the situation that has been created, there is no longer any sense in his remaining in his post and requests that he be relieved of his duties. In all this time, the minister had not lost hope that the situation would improve and that he would be able to implement the measures necessary for environmental protection. This has proved impossible and has resulted in Batoni [Georgian polite form of address] Shota Adamia, the minister proposed by the head of state and approved by Parliament, an eminent scientist and organizer, deciding to resign from the post he holds."

"In connection with this, the Greens faction demands that Prime Minister Tengiz Sigua and Vice-Premier Avtandil Margiani address the parliament in order to clarify the situation that has taken shape."

"We would also like to point out that a campaign has recently been conducted against Georgia's Greens. We do not rule out that the relations toward Shota Adamia, one of the founders of the Greens and a member of the party, is yet another battle to be waged against the Greens. As can be seen, the vigorous statements made by Georgia's Greens against corruption does not suit certain people. Such a campaign cannot stop us. We demand a rapid response to our proposals, submitted at the parliament session on our behalf by Batoni Givi Tumanishvili."

With this, the session ended its work.

Kazakhstan: U.S. Technology Used To Neutralize Noxious Gas Discharges

LD2207094893 Almaty Kazakh Radio Network in Kazakh 0100 GMT 22 Jul 93

[Text] Smokestacks at Dzhambul joint stock company [word indistinct] work under a new regime. Before, the concentration of noxious discharges, which went directly into the atmosphere, made up approximately 350 grams per one cubic meter of gas. Now it is slightly higher than 3 grams. The technology on gas purification, which has been offered by the American company Monsanto, cooperating with [name indistinct], helped to reduce discharges by a factor of 100. Due to its use they would be able not only to neutralize the noxious gas but to use it again in the production. As a payment for the service, Dzhambul chemists made a shipment of a certain amount of their ready produce to the Americans.

Turkmenistan: Preparations for Summit of Heads of Caspian Region States

PM2007134993 Moscow IZVESTIYA in Russian 20 Jul 93 First Edition p 2

[Vladimir Kuleshov report: "Turkmenistan Calls for Cooperation in Resolving Caspian Sea Problems"]

[Text] Ashgabat—Consultations with the governments of countries in the Caspian region have begun in the Turkmenistan Cabinet of Ministers to prepare for the upcoming meeting in Ashgabat in September of the heads of these states, who are to discuss the prospects for cooperation in the Caspian Basin, including in drawing up a common program to save the sea and the people.

A directive by President S. Niyazov has allocated additional hundreds of millions of rubles to purchase prefabricated houses and to resettle in a less dangerous zone the residents of Cheleken who have suffered as a result of the rise in the water level in the Caspian Sea and of the Balkanskaya Oblast settlements which have ended up in the flood zone. Housing is now being constructed, multiapartment blocks are going up, and gas pipelines and automatic telephone exchange lines are being laid where, according to hydrogeologists' calculations, the water should not reach. At the same time a contract has been concluded with a St. Petersburg firm to build up with suction dredges a sandy protective strip around Cheleken, which has now been practically cut off from the dry land, so as to save the functioning enterprises and the residential districts in the center of the city.

"All this will hardly help the people of Cheleken," O. Odekov, academician of the Turkmenistan Academy of Sciences, argues. "The Caspian Sea has encroached and will encroach upon its shores, flooding coastal installations, communications, and enterprises. It is probably already time to think about evacuating a number of

installations which could end up in the flood zone and ending the construction of new ones whose construction sites are below the danger mark. It is time those same leaders of the Caspian states pooled their efforts to resolve the problems of the sea and of the people near it, without waiting for future disasters...."

Turkmenistan's scientists believe that this is necessary to reduce to a minimum the huge damage that the Caspian Sea has already caused to the regions surrounding it. Last year alone the losses from flooding caused by the incessant rise in the sea level amounted to over 40 billion rubles along the entire coast of the Kazakh section of the Caspian Sea and to just a little less in Turkmenistan, Dagestan, and Iran. The famous Lenkoran Valley is now under threat of being flooded.

"Not one state in the Caspian Basin will be able to cope on its own with the problems and costs connected with the rise in the sea level," V. Maslov, deputy chairman of the Turkmen State Commission for Emergency Situations, believes. "It is necessary to unite and cooperate in implementing a common program to save the coastal regions being flooded by the sea."

As is known, this problem was discussed recently at a meeting of leaders of the states belonging to the Economic Cooperation Organization [ECO]. In September, as agreed at the conference in Istanbul, the members of the ECO and also the leaders of Russia and other states in the Caspian region are to gather in Ashgabat to formulate common decisions on the Caspian.

Finland**Traces of Chernobyl Fallout Still Present**

LD1607174493 Helsinki Suomen Yleisradio Network in Finnish 1600 GMT 16 Jul 93

[Text] Traces of the Chernobyl fallout are still being found in berries, mushrooms, and fish this summer. The levels of radioactive cesium have, however, clearly fallen, and all domestic foodstuffs can be consumed without any limitations, according to the Finnish Center for Radiation and Nuclear Safety. Most of the cesium in forests has accumulated in the soil. The Center for Radiation and Nuclear Safety states that there is no need to restrict the consumption of forest berries and mushrooms in any area because of radioactivity.

France**Greenpeace Calls for Ending of Plutonium Shipments to Japan**

AU1407163893 Paris AFP in English 1621 GMT 14 Jul 93

[Text] Paris, July 14 (AFP)—The ecology organisation Greenpeace called on France Wednesday to suspend shipments of plutonium to Japan because of Tokyo's "ambiguous" attitude on the Nuclear Non-Proliferation Treaty.

In a letter to French Prime Minister Edouard Balladur, Greenpeace urged France to suspend deliveries of the nuclear fuel because of the "dangerous rise in tension in Eastern Asia."

"Deliveries by France of plutonium to Japan could only contribute to the slow destabilisation of this region," the organisation said.

Japan opposed an unlimited extension of the treaty at the recent Group of Seven (G-7) summit of industrialised nations in Toyko.

Some members of the ruling Liberal Democrat Party believe Japan should leave open the possibility of developing nuclear weapons in order to counter the threat from North Korea.

It has threatened to pull out of the treaty in a row with the International Atomic Energy Agency over attempts by its inspectors to visit two controversial nuclear plants in the hardline communist state, which is suspected of attempting to develop nuclear weapons.

Last year France shipped 1.7 tonnes of plutonium to Japan, the largest nuclear delivery ever carried out by sea, amid a massive security operation.

Greenpeace said some 30 tonnes of plutonium were due to be shipped from France to Japan under existing arrangements.

Germany**Industry "Cannot Afford Role of Ecological Pioneer"**

BR1507141593 Bonn DIE WELT in German 22 Jun 93 p 11

[Text] Opposition to ever-stricter environment regulations is growing in German industry. At the annual conference of the Ecological Economic Research Association in Berlin, the German Industry and Trade Association (DIHT) expressed its view that German companies "could not afford to act as the Federal Republic's ecological pioneers on a long-term basis."

In addition, the Central Association of German Craft Trades (ZDH) yesterday called for a market economy-oriented environment policy that, in the words of ZDH General Secretary Hanns-Eberhard Schleyer, would be fair to medium-sized firms and "aimed not only at freeing the environment from pollution, in itself a desirable goal, but equally at enabling industry, and especially small and medium-sized craft-based firms, to achieve it."

DIHT environment spokesman Armin Rockholz told DIE WELT that, though there could be no going back on environmental protection, it was just as important to avoid "excessive burdens" and too many regulations: "We must set priorities, and can no longer meet all the demands of environment policy." German industry had no need to hide its light under a bushel, he said, as regarded its environmental investment: The \$10.5 billion it invested in environmental protection in 1991 was more than the combined total for Denmark, France, Great Britain, Japan, and the Netherlands.

Rockholz went on to say that the ongoing cost of environmental protection is two to three times higher than the initial investments: If this burden continues, German industry's international competitiveness will be jeopardized. Rockholz quoted the fifth amendment to the waste law to illustrate his view that environmental protection threatened to turn into an "ecological self-blockade." The regulations were so complicated that they just could not be implemented. Environmental protection needed to be reorganized and all existing and planned environment projects critically reviewed in terms of cost and effectiveness. For example, effluent purification requirements in western Germany were being set ever higher; yet four times as much could be achieved for the same cost in the new laender.

After the hearing before the Environment Committee, the Christian Democrat parliamentary party yesterday renewed its commitment to the amendment on effluents.

Minister Calls for Agreement on Packaging Disposal

BR1507141793 Bonn *DIE WELT* in German
21 Jun 93 p 2

[Text] Federal Environment Minister Klaus Toepfer (CDU [Christian Democratic Union]) considers that negotiations with trade and industry have assured the future of the Dual System Germany (DSD) for collecting and reprocessing domestic plastic waste bearing the green dot. Yesterday Toepfer announced that a specialist company for reprocessing plastics was being set up and that higher levies would have to be paid in future on plastic packaging.

The DSD has stated that 165 million German marks [DM] contributed by trading firms have ensured the financial basis for it to continue operating.

Toepfer had previously threatened to impose more stringent waste disposal laws on trade and industry: If they failed to reach agreement with the DSD on waste packaging disposal and how to finance it, the packaging order could come into force in its original version, which required trade to take back returned packaging.

Trade in Germany remains exempt from this requirement as long as a country-wide system for collecting, sorting, and reprocessing packaging continues to operate. This is up to the DSD.

The job has obviously been too much for the DSD in terms of both volume and funding. According to Toepfer, "The Germans are world champions at collecting": They returned 40,000 tonnes of plastic waste in 1990, and Toepfer expects this figure to rise more than tenfold this year, to 450,000 tonnes. DSD managing director Wolfram Brick has announced that municipalities will in future have to share the cost of disposing of plastic waste, since two-fifths of what is left in garbage cans is plastic waste without the green dot.

Bundestag Environment Committee chairman Wolfgang von Geldern (CDU) has demanded that, "If the reprocessing system cannot cope with the plastics problem, then a special duty will have to be levied until the industry comes up with a solution."

Robert Raeber, chairman of Nestle Germany, writes in *DIE WELT* that the dual system makes sense only if there is a lasting reduction in the amount of packaging collected.

Potsdam Institute of Climate Research Opened

BR1207102293 Bonn *TECHNOLOGIE-NACHRICHTEN MANAGEMENT-INFORMATIONEN* in German
28 May 93 pp 10-11

[Text] The Potsdam Institute of Climate Impact Research (PIK), located in the Albert Einstein Science Park on the Telegrafenberg, was opened to the public on 19 April 1993. The institute was established in January

1992 on the recommendation of the Science Council, as part of the reorientation of research in the new federal laender.

The PIK is unique, not only in Germany but also in Europe. It works on a new scientific field that brings together the natural, economic, and social sciences to focus on major environmental problems. As this field has no scientific precedent, there is a lack of scientists trained in it. Even the organizational and establishment structure cannot be compared with those of other institutes. As a small, flexible, and innovative institute, the PIK is conceived as a think tank designed to work extensively with the entire field of environment research in Germany. It currently has a staff of 38, and an annual budget of around 8 million German marks [DM], half of which is contributed by the BMFT [Federal Ministry of Research and Technology] and half by the Land of Brandenburg.

The PIK's work concentrates on what is probably the most serious environmental problem of our era: the possibility of climate change and its impact on humans and their health, their natural environment, and even their infrastructural systems, such as energy and transport systems. Hitherto there has been hardly any serious scientific evidence on the implications of possible climate changes both for Germany and for other endangered regions of the world. Not only the natural environment, but also economic structures may be affected worldwide by climate change. It is therefore important to know where environmentally caused economic hardship will lead to migration, and the results this will have for central Europe, the EC, and also for Germany.

Under its scientific terms of reference, the PIK will also provide advice on political and social aspects of global change and its consequences. It is expected to provide sound scientific advice on what steps can be taken in the future to protect the environment more effectively while at the same time enhancing economic efficiency. Science will show how our society can achieve the structural change necessary to reconcile ecological and economic aspects, the aim being to take Germany into the next century, both as a center of industry and, even more so, as a promising center for environment-compatible technological developments.

Controversial Clean-Up of Military Site on Elbe Proceeds

BR2007144493 Munich *SUEDDEUTSCHE ZEITUNG* in German 24 Jun 93 p 34

[Article by Susanne Krispin: "Munitions as Pollution: Explosive Material Being 'Dismantled' Beside the Elbe"]

[Text] Torgau, in Saxony, has always had strategic importance owing to the town's situation on the banks of the Elbe. Evidence of this is provided by the numerous munitions dumps left over from the World War II, which still jeopardize the region's ground water and soil.

In 1937, the Westphalian-Anhalt Explosives Company (Wasag), based in Elsnig near Torgau, began building a munitions factory. Production expanded massively when war broke out: The explosive trinitrotoluol (TNT) and highly-concentrated azotic acid were manufactured and put into bombs; later, a factory producing hexogen and hexyl, which the navy required as components for underwater explosives, was added.

After the war, the Red Army blew up the site, damaging the drainage and sewage system. This was a catastrophe, as Wasag is located in a catchment area for drinking water. Before and during World War II, the explosive manufacturing residues were disposed of on an open incinerator.

After 1955, the GDR's National People's Army (NVA) continued to use the site for repairing military equipment. In October 1990, the Bundeswehr, as the site's new owner, resumed munitions incineration there. This time, it was the NVA's residue that was discharged into the atmosphere. Since January 1991, the Vogelgesang Disposal Company (EBV) has been dismantling equipment at the site, despite protests from those affected by the resulting air pollution in the nearby village of Vogelgesang, and pollution of rivers and streams by drifting soot containing highly-toxic carcinogenic substances.

Around 1.8 million people in the Halle/Leipzig area receive their drinking water from this region. Though there are plans to pump out the polluted ground water, no one knows the true scale of the risk facing the region. There are, however, signs of increased levels of leukaemia at comparable former explosives factory sites, such as Stadtallendorf near Marburg, maintains Johannes Preuss, a toxicologist at Mainz University. Torgau residents have long been calling for a halt to open-air incineration, which is allowed until 1995 under a clause in the Unification Treaty.

In response, the EBV had planned to build a enclosed munitions incineration plant, until the company found it would be too large for its purposes and the plans were rejected by the authorities. Over 100,000 tonnes of NVA munitions were to be disposed of in this pilot plant, which would have cost 50 million German marks. Around 600,000 square meters of contaminated Torgau soil were then to be excavated and incinerated, even though it has long been known that bacterial soil purification methods, though more expensive, are more environment-friendly. A bitter dispute has been raging for some time between the pro-incineration faction—the Diehl group of companies, based in Nuernberg—and the town's residents.

There is no precedent anywhere in the world for a similar project on the same scale that could provide valuable experimental data about dioxin formation. The plan to

build a similar plant in Dragan, in Lower Saxony, was stopped by protests from inhabitants—which has obviously led to the attempt to build a similar plant in Torgau. It has still not been explained, however, how the residues left after incineration will be disposed of.

Torgau residents are also anxious to know where the hazardous waste will come from for incineration on their doorstep once the existing stock has been disposed of, and the plant remains in operation.

The town council in Trossin, which is directly affected, has recently refused planning permission for the plant, on the grounds of emissions levels, which could spoil its plans to promote tourism in this very scenic region of high unemployment. Saxony's government has notified the EBV of the refusal, and the land's Environment Minister, Arnold Vaatz (CDU [Christian Democratic Union]) has also firmly rejected the project in view of its location in a drinking water conservation area. The residents' opposition to the gigantic incinerator left no stone unturned to draw attention to the questionability of the project.

The EBV has now formally appealed against the refusal, although, as managing director Werner Scherer acknowledges, the company is running out of time, as it will take some while for the appeal to go through all its stages. Only when the appeal has been won—and this is uncertain—will it be possible for construction work to start. According to Scherer, "If the plant is actually built, it won't be on the scale originally planned." At present, he is not working on the assumption that the incinerator will be approved, as the Unification Treaty requires disposal of all NVA munitions by 1995. Scherer is increasingly disassociating himself from his project, and plans to specialize in air-bag production for the automobile industry and in space technology; as he says, these fields will allow him to apply the experience he has acquired in pyrotechnics.

Environment-Friendly CO₂-Based Dyeing Process Developed

*BR2007095993 Bonn DIE WELT in German
18 Jun 93 p 7*

[Text] Carbon dioxide could in future replace water as a solvent for dyeing synthetic fibers, relieving the burden on the environment. German scientists have developed a process of this kind. They heated the gas to 31 degrees Celsius in a boiler and raised the pressure to least 73 atm. Under these conditions, carbon dioxide liquifies, absorbs dye, and penetrates the fabric. The pressure is then reduced again, and the carbon dioxide evaporates, leaving dry dyestuff residues behind. Previously, special chemicals had to be added before many dyes could be dissolved in water. They are no longer required in the new dyeing process, which generates no polluted effluents.

Laender Face Plutonium Waste Problem
*AU2007111493 Hamburg DER SPIEGEL in German
19 Jul 93 pp 32-33*

[Unattributed report: "Small Inherited Burden"]

[Text] A request for the help of the environment minister in Bonn came from the management of the Essen construction company Hochtief. Wolfhard Leichner, a member of the executive board responsible for technology, last week asked Klaus Toepfer, of the Christian Democratic Union [CDU], to free him of a small, albeit highly explosive, piece of garbage.

The construction managers are having major problems with an old steel capsule the size of a small film container. The contents: plutonium.

The radioactive, highly-poisonous substance was taken over by Hochtief together with the East German "Tief- und Talsperrenbau Weimar" company. The predecessor enterprise, during the era of the GDR, used the so-called neutron source for measuring purposes. Now the piece of radioactive material sits in a lead container in the laboratory of the enterprise, which has some 200 employees—and nobody knows what to do with it.

Time and time again, Dieter Bahr, the radiation officer of Hochtief, has discussed the small inherited burden with the Thuringian authorities. However, the land has consistently stated that it was unable to dispose of the plutonium. Yet, the request for help from Bonn has not yielded any result: The disposal of such substances falls within the authority of the laender, Toepfer said after dinner. Nothing more.

The federal minister strictly insists on the competence regulation, because he is afraid to create a precedence.

About one and one-half kilograms of plutonium are stored in eastern Germany, distributed all over the land in minute portions, mainly in small and medium-sized enterprises in the construction industry, including Trust Agency enterprises. A minor part of the more than 300 radiation sources, which contain up to 150 grams of plutonium, have been stored by the land authorities in central places such as the Greifswald nuclear power plant. The remainder is still stored at enterprises and research institutes.

The owners of the plutonium have to put up with an absurd situation: The enterprises can easily dispose of less hazardous substances—for which there are collection places in all the laender of eastern Germany. However, these are usually not authorized to accept substances as poisonous as plutonium, with the result that especially the most sensitive material is stored on the premises of the enterprises.

And it is stored badly. Christian Kueppers, of the Darmstadt Ecological Institute, has warned that plutonium is "the most poisonous substance man ever invented." The

tiniest quantities, which are not visible to the naked eye, will cause liver, bone, and lung cancer.

The worst scenario for the radiation experts is that plutonium dust might be fed into air conditioning systems of major office blocks or into the drinking water. "A single radiation source would be enough to paralyze a whole neighborhood such as Berlin-Kreuzberg," Michael Roelen, executive manager of the International Physicians for the Prevention of Nuclear War, warns. "A hundred thousand people would have to be evacuated at once."

According to Herwig Paretzki, director of the national Institute for Radiation Protection in Munich, these are "improbable scenarios." Nevertheless, he also added: "The small radioactive sources trouble us much more than all nuclear power plants together. It is difficult to make sure that the stuff does not get into the wrong hands."

This might already have happened. Two of the radiating steel capsules cannot be found anywhere. One was probably lost during the times of the GDR, whereas the fate of the other one is absolutely unclear.

Much more may have disappeared in the confusion during the decline of the GDR. According to an internal list of the Environment Ministry in Dresden, there is, for example, in Saxony a "certain unknown number" of plutonium sources that is difficult to estimate.

Radiation experts are looking for smoke-alarm systems of ancient Soviet production everywhere in the former GDR. Large numbers of such plutonium-containing systems were used in GDR enterprises. A few thousand are said to still exist in the new laender, although nobody knows their exact number and storage places.

The small smoke-alarm systems (with a plutonium content of four to eight milligrams) have meanwhile become a merchandise on the nuclear black market. In April, 120 such systems were stolen from a technical commercial enterprise in Delitzsch, Saxony. In Berlin, a few people were recently busted when trying to sell such plutonium-containing devices. Contrary to most eastern laender, federal authorities could store all plutonium capsules relatively easily. After all, 1.2 tonnes of nuclear fuel is stored in the state-owned plutonium bunker at Hanau, anyway.

"The radiation sources from Saxony could easily be stored in three shoe boxes," Siegmar Nagel, department head for nuclear plants in Dresden's Environment Ministry, stated with outrage. "There must be space for it in Hanau somewhere."

But there is not. Instead, the federal and laender governments have become entangled in an absurd controversy over the proper interpretation of the nuclear law.

Bonn insists that, technically, the poisonous capsules are radioactive waste, which, under the nuclear law, indeed falls into the responsibility of the laender. These, in turn,

refer to paragraphs according to which the sources are nuclear fuel and thus fall into the responsibility of the federal authorities.

This is how Toepfer envisages the solution of the problem: As long as a country does not have appropriate

collection places, those research institutes and enterprises that have radiation-proof storage rooms should be obliged to store plutonium sources, even for others.

Bad news for the Hochtief managers: Because its plant at Weimar has such a good strongbox, the company might even have to take care of the radioactive waste of its competitors.

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